

1.1 Radio Astronomy

1.1.1 Maintenance and Calibration

- Requested by JIVE correlator (European VLBI Network) to provide uvflag information from previous EVN observing session (October 08). To comply with this request it has been developed a script to provide antenna status information in flagr notation in the experiment logs. Logs from previous EVN observing session have been modified, and using JIVE correlator scripts uvflag.pl and uvflagplot.pl, the uvflag files have been successfully generated, and sent to the correlator.
- Development of several TDN blocks to support VLBI observations.
- Installation of Q-band post-amplifiers at DSS-54. Performed preliminary measurements of system noise on LCP channel (ATOT Development DOY 019).
- Recently installed EAC XANT application versions 5.2 and 5.2.1 (beta) have been successfully tested. This upgrade solves the incompatibility between XANT application and recent OP-C installation at DSS-63. Found few minor bugs that do not prevent us to resume Host Country observations.

1.1.2 Observations

1.1.2.1 Host Country Spectroscopy

Host Country observations have been resumed after the upgrade of the EAC XANT application. During this month the Host Country reduction software has been further improved and tested for different frequency switching mode scenarios.

DOY	minutes scheduled	minutes used	Percent good data	Activity	comments
027	355	355	0	“Host Country s/w tests”	OK

1.1.2.2 Interferometry

MDSCC participated in 5 Very Long Baseline Interferometric (VLBI) observations (4315 min in total):

- RFC Clock Synchronization on DSS-65 (2 observations; 480 min): For first observation 100% data collected; performance of the system nominal. For second observation DSS-65 antenna had several problems with EL and AZ drives, as a result antenna arrived late to 42 sources (26% data lost, DR#M105198).
- RFC Catalog M&E S/X on DSS-65 (1 observation; 1285 min): DSS-65 antenna had several problems with EL and AZ drives, as a result antenna arrived late to 16 sources (3% data lost, DR#M105199).
- RFC Catalog X/Ka on DSS-55 (1 observation; 1440 min): DSS-55 antenna had several problems with EL and AZ drives, 34 sources were lost (7% data lost, DR#M105206).
- EUROPE Space Geodesy Program on DSS-65 (1 observation; 1110 min): DSS-65 antenna had several problems with EL and AZ drives, 8 sources were lost, and antenna arrived late to 11 sources (9% lost, DR#M105208). Observation log sent to IVS server.